AudioSource®

AMP210 / AMP310
OWNER'S MANUAL

FEATURES:

Line 1 / Line 2 priority input switching
Line 2 auxiliary output
High level input
Speaker A/B switching
Front panel balance and volume trim controls
Independent rear left / right master level controls
Front panel diagnostic LEDs
Signal sensing "Power On"
12VDC "Trigger On"
Triple-Darlington Power Amplifier Stages
Dual-differential error amplifiers
SN Ratio: 100dBA
Rack-mount ready

AMP210 / AMP310

Home Audio Multi-Zone Power Amplifier

Congratulations on your purchase of the AudioSource® AMP210/310. Please take a few moments to read this entire manual, and be sure to retain this document for future reference. Please read and observe all safety instructions detailed on page 2.

NOTE: if any part of this product is damaged or missing, please call your dealer or AudioSource® directly at 1.800.435.7115 or 503.286.9300.

Please read your warranty and retain your receipt and original carton for possible future use.

For more information about AudioSource® electronics, speakers and accessories please visit www.audiosource.net

AudioSource®
9200 North Decatur St.
Portland, OR 97203
503.286.9300
www.audiosource.net

CAUTION

RISK OF ELECTRICAL SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL!

EXPLANATION OF SAFETY SYMBOLS

	The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.
	The lightning flash with the arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the products' enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the appliance.
11. Only use attachments or accessories specified by the manufacturer.
12. Unplug the apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

- TO PREVENT FIRE OF SHOCK HAZARD, DO NOT USE THIS PLUG WITH AN EXTENSION CORD, RECEPTICLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.
- TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE
- TO PREVENT ELECTRICAL SHOCK, MATCH WIDE BLADE PLUG TO WIDE SLOT, FULLY INSERT.

MAGNETIC FIELD: !!CAUTION!! Do not locate sensitive high-gain equipment such as preamplifiers or tape decks directly above or below the unit. Because this amplifier has a high power density, it has a strong magnetic field, which can induce hum into unshielded devices that are located nearby. The field is strongest just above and below the unit. If an equipment rack is used, we recommend locating the amplifier(s) in the bottom of the rack and the preamplifier or other sensitive equipment at the top.

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Technical Support

If any part of this product is damaged or missing, please call your dealer or AudioSource® directly at toll free 1.800.435.7115 or locally 503.286.9300.

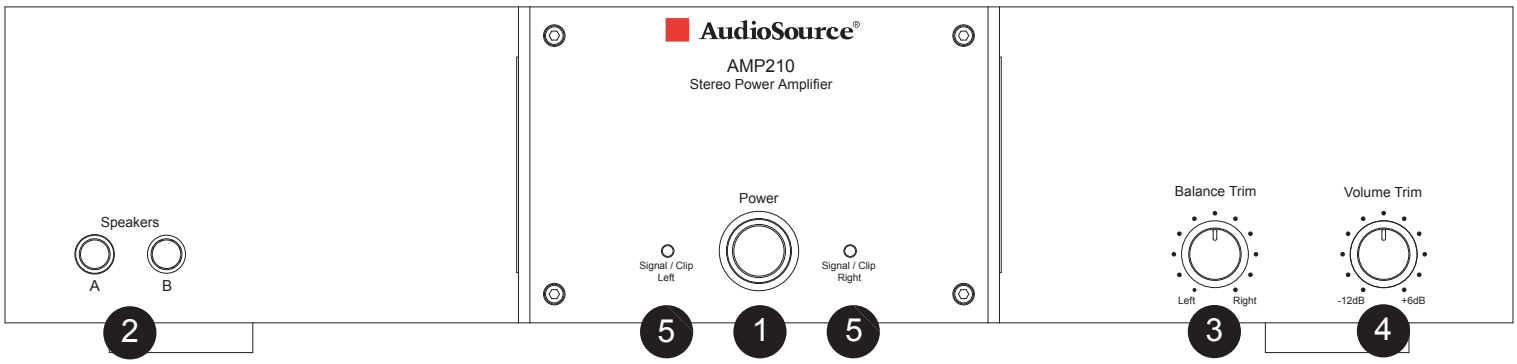
Limited Warranty

AudioSource® warrants its amplifier products against defects in materials and workmanship for a limited period of time. For a period of two years from date of original purchase, we will repair or replace the product, at our option, without charge for parts and labor. Customer must pay all parts and labor charges after the limited warranty period expires. The limited warranty period for factory refurbished products expires after ninety (90) days from date of original purchase.

This limited warranty applies only to purchases from authorized AudioSource® electronics retailers. This limited warranty is extended only to the original purchaser and is valid only to consumers in the United States.

Consumers are required to provide a copy of the original sales invoice from an authorized AudioSource® dealer when making a claim against this limited warranty. This limited warranty only covers failures due to defects in materials or workmanship that occur during normal use. It does not cover failures resulting from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, modification, service by anyone other than AudioSource®, or damage that is attributable to Acts of God. It does not cover costs of transportation to AudioSource® or damage in transit. The customer should return his defective product, freight prepaid and insured, to AudioSource® only after receiving a Return Authorization.

This warranty will become void if the serial number identification has been wholly or partially removed, altered or erased. Repair or replacement under the terms of this warranty does not extend the terms of this warranty. Should a product prove to be defective in workmanship or material, the consumer's sole remedies will be repair or replacement as provided under the terms of this warranty. Under no circumstances shall AudioSource® be liable for loss or damage, direct, consequential or incidental, arising out of the use of or inability to use the product. There are no express warranties other than described above.



FRONT PANEL CONTROLS

Figure 1. Front Panel

1. Power
   The front panel power switch switches the AMP210/310 on or off. Red LEDs behind the faceplate indicate power status. Whenever the amplifier's power switch is in the "ON" position the ring around the button is illuminated. When the amp is "Active" (receiving signal) the side lenses become illuminated and the signal LEDs show green. During "Standby" status (no signal) the side lenses are not illuminated and the signal LEDs show orange.
2. Speaker Selector
   Selects speaker set (A or B)
3. Balance Trim
   Fades speaker output between the Right and Left Channels
4. Volume Trim
   Allows fine adjustment of amplifier volume.
5. Clip LEDs
   Blinks red during signal clipping. Reduce volume slightly.
   Shows solid red during protect mode. Check speaker wires for shorts or extreme low impedance (< 4 ohms).

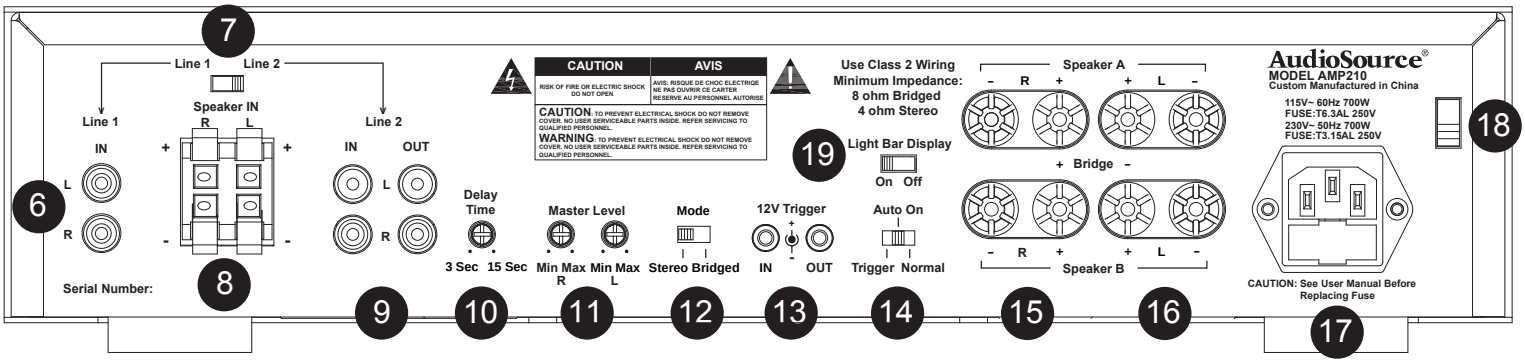


Figure 2. Rear Panel

REAR PANEL CONTROLS

6. Line 1 Input
   A switching input that can be used if a second source is desired and will take over when a signal is present and has at least a 5mV level. Whenever there is no signal at this input, or a signal with less than 5mV level, the amplifier switches back to the Line 2 or "primary" input.
7. Speaker Level Input Line Select
   Switches the input of the speaker level input to Line 1 or Line 2.
8. Speaker Level Input
   Can be used to connect a source with speaker level output instead of line level outputs. Use the Speaker Level Input Line Select to route the source to Line 1 or Line 2.
9. Line 2 Input/Output
   The primary line level input and output for a single source connection.
10. Delay Time
    Allows for a 3-15 second delay to be set and accommodate the source connected to the Line 1 input.
11. Master Level Controls
    Provides independent adjustment of Left and Right channel maximum level.
12. Mode Select Switch
    Switches the amplifier from Stereo mode to Bridged mode
13. 12V Trigger
    Allows the AMP210/310 to be powered on by other electronics or to power on other electronics via a 3.5mm mini phone plug cable.
14. Power Mode
    Sets the power on option of the AMP210/310. Set it to Normal for manual power on/off. Set to Auto-On for signal sensing. Set to Trigger if the 12V Trigger input is used.
15. Right Channel Speaker Output
    Right channel terminals for speaker outputs A and B.
16. Left Channel Speaker Output
    Left channel terminals for speaker outputs A and B.
17. Mains Power Inlet & Fuse Holder
    Accepts IEC type line cord. A fuse located in integrated holder provides safety protection from fault conditions: replace fuse with one of same type and rating only.
18. Mains Voltage Selector
    Voltage selection switch is preset to 115V (USA). For use in areas which require 230V contact your dealer. Fuse must be of type and rating marked on amplifier for use at local mains voltage.
19. Light Bar Display Control
    Turns light bar display on front panel on or off. Does not control Signal/Clip LEDs or power button light ring.

FRONT PANEL CONTROLS

The front panel power switch switches the AMP210/310 on or off. Red LEDs behind the power button lens indicate power status. Whenever the amplifier's power switch is in the "ON" position and the amplifier is in "Active" status the Signal/Clip LEDs are illuminated green. If the amplifier is "ON" but in "Standby" status the Signal/Clip LEDs will illuminate orange.

REAR PANEL CONTROLS

The AMP210/310 can be turned on and off independently via the power switch on the front panel, by signal sensing, or remotely by a triggered DC input. Switch 14, located on the lower edge of the rear panel of the amplifier, selects turn-on functions of the AMP210/310. If you would like to control the unit's power on / power off status manually from the front, place the switch in the "Normal" position. If you would like to control the unit's power-on / power-off status by means of signal sensing, place the switch in the "AUTO ON" position. If you would like to control the unit's power-on / power-off status by a DC remote trigger, place the switch in the "TRIGGER" position, and connect the remote triggering cable from your triggering device to the jack labeled "IN" next to the switch. When using 12V Trigger or Auto On mode, the unit's power button will be pushed in and the status LEDs will be illuminated orange in standby condition.

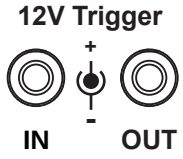


Figure 3. 12V Trigger

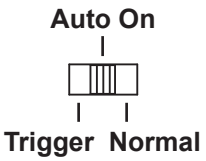


Figure 4. Power Mode

Use a 3.5mm phone plug (in the "IN" connector) to make this connection: the tip of the connector is (+) positive, and the sleeve of the connector is (-) negative. A second jack in the same block is labeled "OUT". This allows for remote turn-on of other devices when the AMP210/310 is powered on. Use the same polarity for the terminals of this plug. Please read the owner's manual for any devices you are attempting to connect in this manner to ensure compatibility.

Note: The front panel power switch must be in the "ON" position for the 12V triggers or "Auto ON" features to operate.

11 MASTER LEVEL CONTROLS

These level controls allow independent volume adjustment for each channel. At the bottom left of the rear panel, there are 2 screwdriver adjustment knobs which set the maximum level of the channel identified by the channel designator below it.

Figure 5. Master Level

The volume range is labeled Minimum to Maximum. Rotate the knob clockwise to increase output, and counter-clockwise to decrease output.

These adjustments set the master level and if not configured at initial setup of the AMP210/310 may adversely affect the performance of the amplifier.

Begin Master Level control setup by adjusting the front panel "Volume Trim" to its fully clockwise position. Set the front panel "Balance Trim" to its center detent position. Now adjust both the Left and Right Channel Master Level controls to set a "Maximum" desired volume for the AMP210/310 in its application, as well as setting an appropriate "Balance" from left to right.

Now use the front panel Volume and Balance Trim controls to make fine adjustments to your setup in this application.

6 & 9 RCA INPUT/OUTPUT

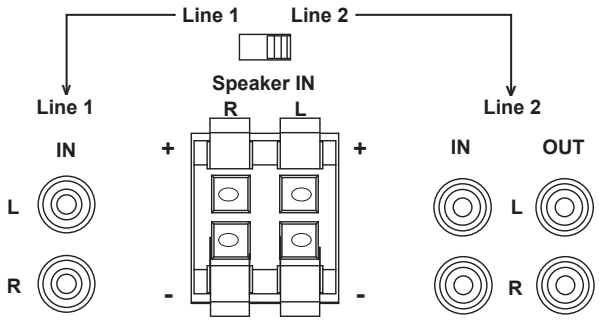


Figure 6. RCA Inputs

There are 2 pairs of RCA inputs on the back panel of the AMP210/310. These RCA inputs are labeled as "Line 1 IN" and "Line 2 IN". They are also designated with an "R" or an "L" as Right channel or Left channel inputs respectively.

"Line 2 IN" should be used as the "primary" or normal input for various line level sources that may be available to the amplifier. "Line 1 IN" is a switching input that should be used when a second local source is connected, and will take over as the selected input whenever a signal with a minimum of 5mV of level is present. Whenever there is no signal at the "Line 1 IN" RCAs, or a signal with less than 5mV level, the input will revert back to the normal Line 2 input signal after preset delay.

An adjustable delay, of from 3 seconds to 15 seconds, can be set to accommodate the nature of the source connected to the "Line 1 IN" RCAs. As an example, if the "Line 1 IN" source was a CD Changer, the delay could be adjusted to prevent switching back to the "Line 2 IN" source while the changer moves from one disc to another.

Figure 7. Delay Time

8 SPEAKER LEVEL INPUT

The AMP210/310 provides a pair of speaker level inputs for those applications where either of the sources has only speaker level output signal available. The switch 7 routes the speaker level signal to either the Line 1 or Line 2 input.

12 MODE SWITCH

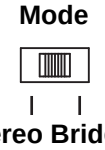


Figure 8. Mode Select Switch

To the right of the Master Level controls is a switch labeled "Mode" with "Stereo" and "Bridged" as options. If you will be connecting one or two pair of speakers to the amplifier, place the switch in the "Stereo" position.

NOTE: If you are using the AMP210/310 in stereo mode, with 2 sets of speakers (A and B), make sure each speaker has an impedance of 8 ohms or greater.

When used in "Bridged" mode, the amplifier is a single channel Mono amplifier.

If you will be using a pair of channels to power a single mono speaker, place the switch in the "Bridged" position, and be sure to read the section titled "Speaker Terminals" below.

While the amplifier operates in bridged mode you are required to have the Left input connected to the amplifier only. The amplifier will use this signal to create your Mono source.

NOTE: The AMP210 supplies 250W in bridged mode, while the AMP310 supplies 450W in bridged mode. Please verify that your speakers are capable of handling such power to avoid possible damage!

19 LIGHT BAR DISPLAY

Figure 9. Light Bar Display Control

This switch controls the lighted bars on the front of the amplifier. These bars light red when the amplifier is in operation. If the amplifier is visible, and a low light setting is desired, use this switch to turn off the light bars. The other LED indicators on the front panel as well as the power button lighted ring are not affected by this control.

15 & 16 SPEAKER TERMINALS

Terminals are provided for "A" and "B" pairs of speakers for each channel. If you will be using the amplifier as a stereo amplifier (i.e. not a bridged amplifier), connect the speaker's positive (red) terminal to the amplifier's positive (red) terminal, and the speaker's negative (black) terminal to the amplifier's negative (black) terminal (immediately beside the positive terminal).

NOTE: Use the appropriate gauge speaker wire when connecting speakers to the AMP210/310.

If using one pair of channels bridged, place the "Mode" switch in the "Bridged" position and use both RED terminals to connect to the speaker.

When in "Bridged" mode make sure to connect the speaker's negative (black) terminal to the amplifier's positive (red) terminal of the left channel and the speaker's positive (red) terminal to the amplifier's positive (red) terminal of the right channel.

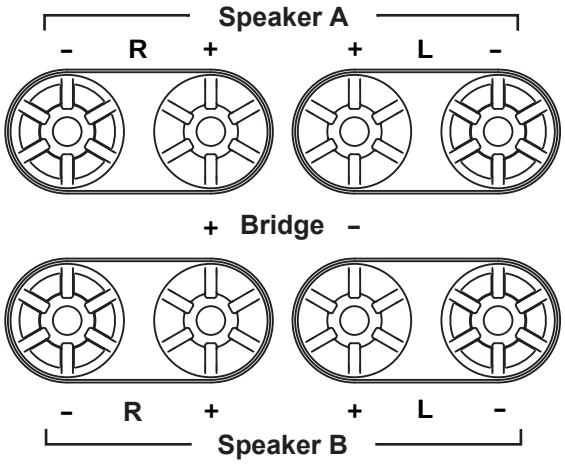


Figure 10. Speaker Terminals

NOTE: Only one pair of channels can be bridged together. Do not attempt to bridge both A & B speaker terminals, as this may result in a lower impedance than the amplifier is designed to accommodate and may damage your amplifier. The minimum impedance for the total load connected to a pair of channels in the bridged mode is 8 ohms.

17 & 18 MAINS POWER INLET/FUSE/ VOLTAGE SELECTOR

Power inlet accepts the IEC type line cord supplied with the amplifier. A fuse in the integrated holder provides safety protection from fault conditions: replace fuse with one of same type and rating only.

This amplifier is configured for operation at 115V. (North America)

The AMP210/310 can be configured for operation from either 115V ~60Hz or 230V ~50Hz AC mains. Installed mains fuse must be of type and rating marked on amplifier corresponding to configured AC mains voltage.

Should you wish to configure the AMP210/310 for use at 230V ~50Hz please contact your dealer or distributor.

APPLICATIONS

NOTE: It should be noted that the AMP210/310 is rated to operate into a minimum 8-ohm bridged load. Therefore, if you are using more than a single 8-ohm loudspeaker in bridged mode you should consider using an impedance matching speaker selector, such as the Phoenix Gold® Innovative Home ISM4, ISM6 or ISM8, or possibly using an impedance matching volume control, such as the Phoenix Gold® Innovative Home VMT100 available at your favorite DIY store or electrical supply. The choice of a volume control would allow you the additional flexibility of being able to attenuate the volume whenever necessary.

STEREO SETUP

In this configuration, the mode switch is set to "Stereo". Connect the line out jacks from a stereo preamplifier or source to the Line 2 input jacks of your AMP210/310 (Figure 11). Next connect your speakers to the terminals marked "Speaker A" observing proper polarity (see "Speaker Terminals" Page 6). Connect a second (optional) pair of speakers to the terminals marked "Speaker B". Select the "A" speakers using the front panel speaker selection buttons.

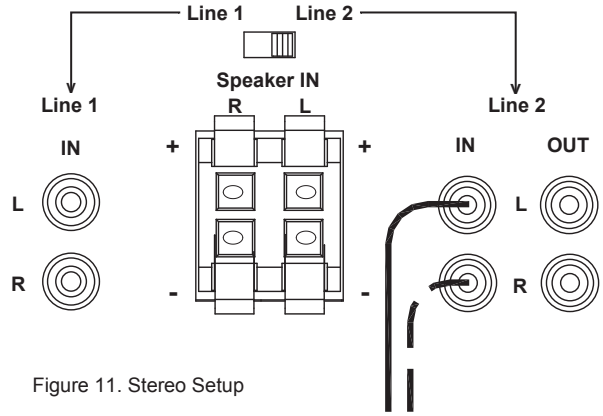


Figure 11. Stereo Setup

MONO SETUP

In this configuration, the mode switch is set to "Bridged". Connect the Left line out from a preamplifier to the left Line 2 inputs of your AMP210/310. Connect your mono speaker to the terminals of your AMP210/310 (see "Speaker Terminals" on Page 6). Use the left "Master Level" control on the rear panel to adjust the volume. Leave the balance set to the center detent position.

SETUP FOR MULTIPLE SOURCE

In the application shown in Figure 12, a distributed audio system is connected to the AMP210/310 as a local zone amplifier via the Line 2 inputs. Normally the distributed audio system will be the audio source for the AMP210/310. The distributed audio is then passed on to be used by additional zones or sub zones in the distributed system via the Line 2 outputs.

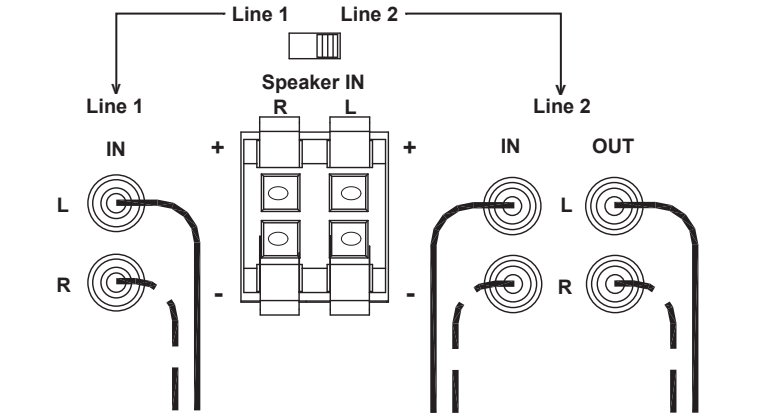


Figure 12. Line Level with Multiple Sources

The audio output of a local source, such as an MP3 Player, CD, television, computer, etc., is connected to the AMP210/310 via the Line 1 inputs, and whenever the local source is active its signal will take priority over the distributed audio signal present at Line 2 . However, the distributed audio signal will still be present at the Line 2 input. In this circumstance the audio output of the local source will be heard via the AMP210/310. Once the local source is turned off or muted, the AMP210/310 will automatically switch back the distributed audio system as an audio source, assuming the local source remains inactive. The delay time adjustment determines when switch back to the normal source will occur. This set up assumes all incoming signals are at line level and not at speaker level.

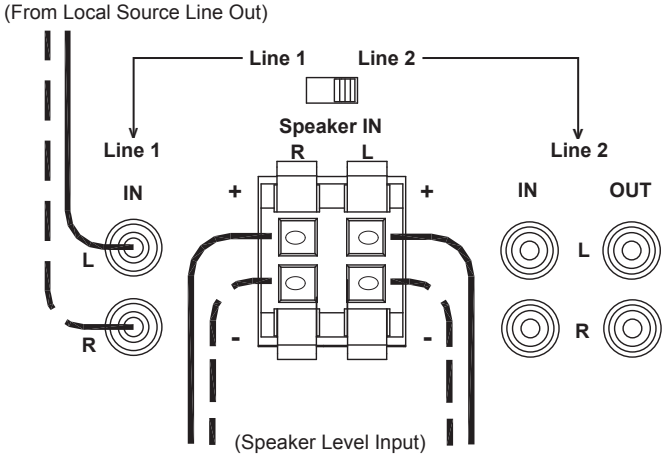


Figure 13. Speaker Level with Multiple Sources

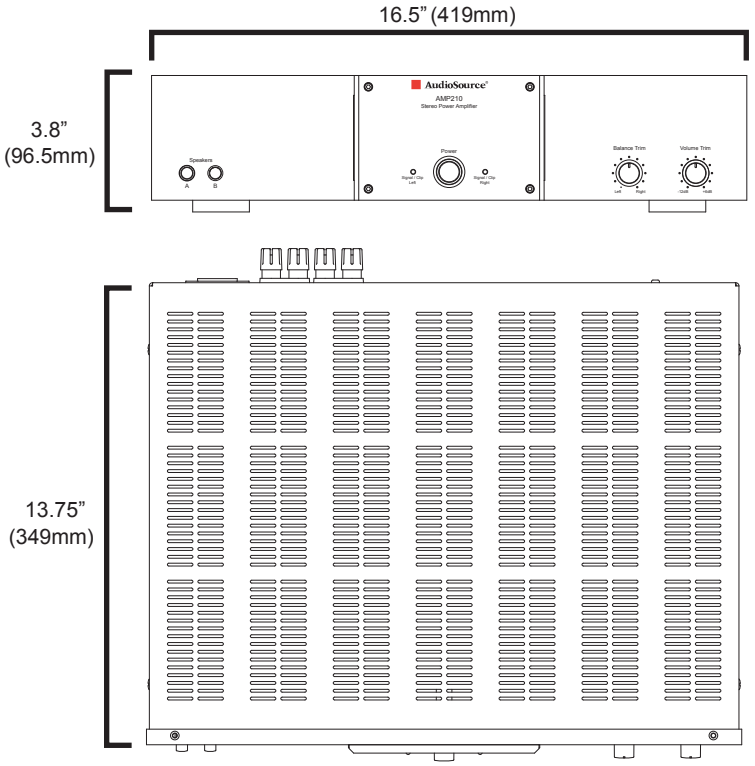
If the whole house distributed audio was only available as a speaker level signal you could connect it to the "Speaker In" connections and set the routing switch to the "Line 2" position, the right hand position of the switch (Figure 13).The AMP 210/310 will no longer be able to pass the Whole House Distributed Audio to another zone via the Line 2 Output. If you have any questions regarding how to set this up, please call AudioSource® Tech support at 1.800.435.7115 or 503.286.9300.

AMP210 / AMP310
OWNER'S MANUAL

AudioSource

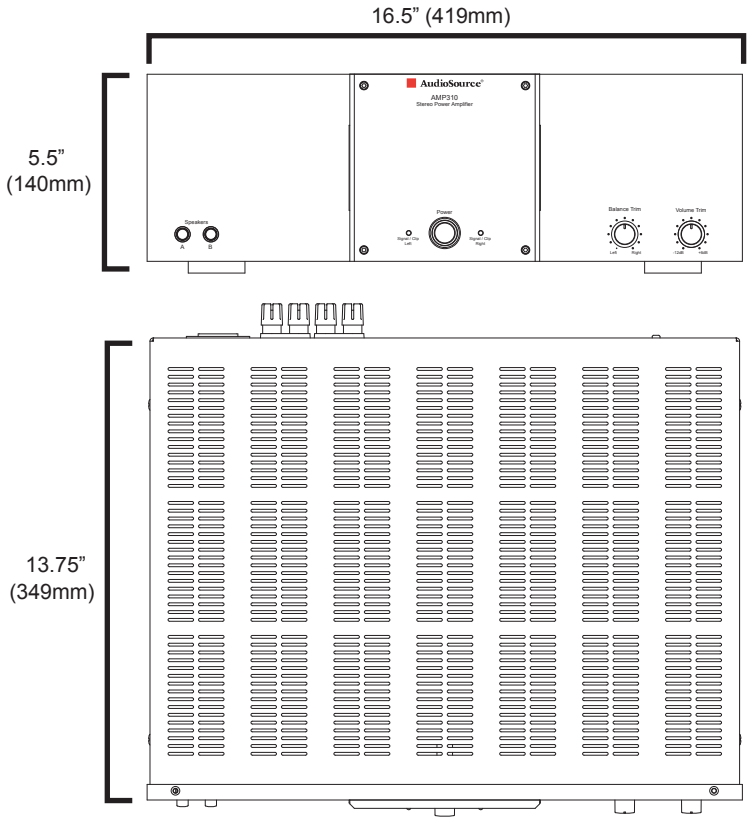
AMP210 SPECIFICATIONS

Stereo (8 ohm):	90W RMS per channel at 8 ohms, 20Hz - 20kHz, <0.1% THD+N
Stereo (4 ohm):	125W per channel at 4 ohms, 20Hz-20kHz, <0.1% THD+N
Bridged Mono (8 ohm):	250W RMS at 8 ohms, 20Hz - 20kHz, <0.2% THD+N
Frequency Response:	10Hz - 50kHz, +0dB, -3dB
Signal to Noise Ratio:	100dB A-weighted, referred to rated power at 4 ohms
Channel Separation:	69dB @ 1kHz, referred to rated power at 8 ohms
Sensitivity:	Variable, 350mV to 2.8V for rated power at 8 ohms
AC Power Consumption:	700W maximum
Net Weight:	24lbs / 10.9kgs
Gross Weight:	31.7lbs / 14.4kgs



AMP310 SPECIFICATIONS

Stereo (8 ohm):	150W RMS per channel at 8 ohms, 20Hz - 20kHz, <0.1% THD+N
Stereo (4 ohm):	225W per channel at 4 ohms, 20Hz-20kHz, <0.1% THD+N
Bridged Mono (8 ohm):	450W RMS at 8 ohms, 20Hz - 20kHz, <0.1% THD+N
Frequency Response:	10Hz - 50kHz, +0dB, -3dB
Signal to Noise Ratio:	100dB A-weighted, referred to rated power at 4 ohms
Channel Separation:	68dB @ 1kHz, referred to rated power at 8 ohms
Sensitivity:	Variable, 350mV to 2.8V for rated power at 8 ohms
AC Power Consumption:	1200W maximum
Net Weight:	33.1lbs / 15.0kgs
Gross Weight:	41.9lbs / 19.0kgs



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